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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,257

11/18/2005

Robert J. Pruett

07810.0119-00

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7590

01/10/2007

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EXAMINER

ABU ALI, SHUANGYI

ART UNIT

PAPER NUMBER

1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/531,257

Applicant(s)

PRUETT ET AL.

Examiner

Shuangyi Abu-Ali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/27/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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## DETAILED ACTION

(1)

### *Claim Objections*

Claim 34 is objected to because of the following informalities: "34 "is missing.

Appropriate correction is required.

(2)

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 5-9, 16, 18-19 and 47-53 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,402,826 B1 to Yuan et al.

Regarding claim 1, Yuan et al. disclose a kaolin composition having a shape factor at least 12 (col. 9, line 8), 72-82 weight % of particles having an esd less than 1 µm (col. 8, table 1), and about 15-30 weight % particles having an esd less than 0.25 µm (col. 8, table 1).

Regarding claims 2- 3 and 4, Yuan et al. disclose that the kaolin composition has a viscosity less than 1200 rpm at 18 dynes when the solid percentage is around 65-75% (col. 8, table 1).

Although Yuan et al. are silent about the viscosity of 63% solid kaolin composition as set forth by applicant in claim 2, it is the position of the examiner that since the viscosity of kaolin composition is determined by its constituent, the claimed viscosity of the composition would be inherent to that of Yuan et al. See MPEP 2112.

Regarding claims 5-9, Yuan et al. disclose a kaolin composition comprising at least 90 weight % of particles having an esd less than 2  $\mu\text{m}$  (col. 9, line 1 and 2).

Regarding claims 16 and 18, Yuan et al. disclose a kaolin composition having a shape factor at least 12 (col. 9, line 8).

Regarding claim 19, Yuan et al. disclose that a kaolin composition comprising about 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (col. 8, table 1).

Regarding claim 47, Yuan et al. disclose a coated paper (column 16, line 18) which may be coated with a kaolin composition, which has a shape factor at least 12 (col. 9, line 8), at least 72-82 weight % of particles having an esd less than 1  $\mu\text{m}$  (col. 8, table 1), and about 15-30 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (col. 8, table 1), is used to coat paper surface made from cellulose wood fiber (col. 1, lines 28-32).

Regarding claim 48, Yuan et al. disclose that the kaolin composition comprises at least 90 weight % of particles having an esd less than 2  $\mu\text{m}$  (col. 9, lines 1 and 2).

Regarding claim 49, Although Yuan et al. are silent about the viscosity of kaolin composition as set forth by applicant in claim 49, it is the position of the examiner that since the viscosity of kaolin composition is determined by its constituent, the claimed viscosity of the composition would be inherent to that of Yuan et al. See MPEP 2112.

Regarding claim 50, Yuan et al. disclose that calcium carbonate is conventionally used in paper coating compositions (col. 1, line 34).

Regarding claim 51, Yuan et al. disclose a method of coating paper surface made from cellulose wood fiber (col. 1, lines 28-32) with a kaolin composition, which has a shape factor at least 12 (col. 9, line 8), at least 72-82 weight % of particles having an esd less than 1  $\mu\text{m}$  (col. 8, table 1), and about 15-30 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (col. 8, table 1).

Regarding claim 52, Yuan et al. disclose a method of coating paper surface made from cellulose wood fiber (col. 1, lines 28-32) with a kaolin composition, which has at least 90 weight % of particles having an esd less than 2  $\mu\text{m}$  (col. 9, line 1 and 2).

Regarding claim 53, Yuan et al. disclose a method of coating paper surface with a kaolin composition as set forth above, but they are silent about the viscosity of kaolin composition as set forth by applicant in claim 53, it is the position of the examiner that since the viscosity of kaolin composition is determined by its constituent, the claimed viscosity of the composition would be inherent to that of Yuan et al. See MPEP 2112.

(3)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 10-17, 20-36, 38-46 and 54-55 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,610,137 B2 to Golley et al.

Regarding claims 1 and 20, Golley et al. disclose a kaolin composition having a shape factor at least 50 (col. 6, line 44), at least 72 weight % of particles having an esd less than 1  $\mu\text{m}$  (col. 6, lines 25-27) and 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (col. 6, lines 25 and 26).

Regarding claims 10-12, Golley et al. disclose that a kaolin composition comprising at least 72 weight % of particles having an esd less than 1  $\mu\text{m}$  (col. 6, lines 25-27).

Regarding claims 13-17, Golley et al. disclose that a kaolin composition having a shape factor at least 50 (col. 6, line 44).

Regarding claim 21, Golley et al. disclose a method of making a kaolin composition:

1) Grinding a degrittied kaolin slurry (col. 7, line 11) composition comprising at least 50 weight % of particles having an esd less than 2  $\mu\text{m}$  (col. 4, lines 11-20); and

2) Classifying the grounded kaolin slurry to obtain a composition having a shape factor at least 50 and at least 85- 95% weight % particles having an esd less than 2  $\mu\text{m}$  (col. 4, line 22-44).

Regarding claim 22, Golley et al. Disclose that the sedimentary kaolin used in the process of making pigment (col. 4, line 2).

Regarding claims 23-25, Golley et al. disclose a method of making a kaolin pigment composition as set forth above, but they are silent about t the viscosity of kaolin composition as set forth by applicant in claims 23-25. It is the position of the examiner that since is the viscosity of determined by the constituent of the composition, the claimed viscosity of the composition would be inherent to of Golley et al. See MPEP 2112.

Regarding claim 26, Golley et al. disclose that around 20%-35 weight% of particles having an esd less than 0.25  $\mu\text{m}$  (col. 4, lines 41and 42).

Regarding claim 27, Golley et al. disclose that at least 50 weight% of particles having an esd less than 2 $\mu\text{m}$  (col.4, lines 15 and 16)

Regarding claim 28, Golley et al. disclose that the shape factor of the raw kaolin composition is at least 15 (col. 4, lines4).

Regarding claim 29, Golley et al. disclose that a particular grinding medium is used in the refine kaolin composition process (col. 4, line 24).

Regarding claims 30 and 31, Golley et al. disclose that an optimum amount of energy used in the refine process is in the range of 20kWh to 100 kWh per ton of kaolin (col. 7, line 40).

Regarding claim 32, Golley et al. disclose that the degrittled kaolin composition is subjected to magnetic separator to remove minerals (col. 7, lines 11-13).

Regarding claim 33, Golley et al. disclose that treatment such as magnetic separation, ozone, reduced-acid leaching, floatation, and selective floatation is performed before or after grinding (col. 18, claims 6 and 7).

Regarding claim 34, Golley et al. disclose that the process of refining kaolin pigment may comprise of centrifuge operation to control less than 0.25  $\mu\text{m}$  content in the composition (col. 8, lines 18-20 and col. 9, lines 42 and 43).

Regarding claim 35, Golley et al. disclose a method of refining a raw degrittled kaolin slurry composition (col. 7, line 11) having at least 50 weight % of particles having an esd less than 2 $\mu\text{m}$  (col. 4, lines 16 and 17) and a shape factor greater than 15 (col. 4, line 4).

Regarding claim 36, Golley et al. disclose that the refined kaolin composition comprising 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (col. 6, lines 25 and 26).

Regarding claim 38, Golley et al. disclose a method of refining kaolin composition:

1) Preparing a degrittled kaolin slurry (col. 7, line 11) composition having at least 50 weight % of particles having an esd less than 2  $\mu\text{m}$  (col. 4, lines 11-20);

2) Grinding the kaolin slurry composition by using an optimum amount of energy in the range of 20kWh to 100 kWh per ton of kaolin (col. 7, line 40); and



3) Classifying the grounded kaolin clay to obtain a composition comprising at least 72 weight % particles having an esd less than 1  $\mu\text{m}$  (col. 6, lines 25-27).

Regarding claim 39, Golley et al. disclose that the refined kaolin composition comprising at least 95 weight % of particles having an esd less than 2  $\mu\text{m}$  (col. 6, lines 23-25).

Regarding claims 40-42 Golley et al. disclose that the refined kaolin composition having a shape factor at least 50(col. 6, line 44).

Regarding claim 43, Golley et al. disclose that the refined kaolin composition comprising 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (col. 6, lines 25 and 26).

Regarding claim 44, Golley et al. disclose that the refined kaolin composition slurry is spray-dried (col. 7, lines 66-67).

Regarding claims 45 and 46, Golley et al. disclose that treatment such as magnetic separation, ozone, reduced-acid leaching, floatation, and selective floatation is performed before or after grinding.

Regarding claims 54 and 55, Golley et al. disclose a method of preparing kaolin composition comprise of dewatering kaolin slurry by one of the ways that is well known in the art such as evaporation, filtration and centrifugation (col. 7, lines 53-6 and 57) to obtain a kaolin composition comprising at least 95 weight % of particles with an esd less than 2 $\mu\text{m}$  (col. 6, lines 23-25) and a shape factor at least 50 (col. 6, line 44).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,610,137 B2 to Golley et al

Regarding claim 37, Golley et al. disclose a method of refining kaolin composition comprising 35 weight % of particles having an esd less than 0.25  $\mu\text{m}$  (col. 6, lines 25 and 26).

But they are silent about the kaolin composition comprising about 40 weight% of particles having an esd less than 0.25 $\mu\text{m}$  as applicant set forth in claim 37.

However, it would have been obvious to one of ordinary skill in the art at the time of invention that the invention of Golley et al. would have been capable of producing

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kaolin particles wherein about 40 weight% of particles have an esd less than 0.25  $\mu\text{m}$ , given the fact that Golley et al. disclose that the parameters of the centrifuge operation control the less than 0.25  $\mu\text{m}$  particle content in the composition (col. 8, lines 18-20 and col. 8, lines 42 and 43).

(5)

***Conclusion***


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Such prior art is listed on PTO-892 A-B, D and F-H. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuangyi Abu-Ali whose telephone number is 571-272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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